

Notice of Allowability

Application No.

10/665,885

Examiner

Helen Rossoshek

Applicant(s)

LORENZ ET AL.

Art Unit

2825

-- The **MAILING DATE** of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 02/28/2006.
2. ☒ The allowed claim(s) is/are 1-59.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 05172006.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

A. M. Thompson
Primary Examiner
Technology Center 2800

DETAILED ACTION

1. This office action is in response to the Application 10/665,885 filed 09/19/2003 and amendment filed 02/28/2006.
2. Claims 1-59 remain pending in the Application.
3. Applicant's arguments have been fully considered and are persuasive.

EXAMINER'S AMENDMENT

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
5. Authorization for this examiner's amendment was given in a telephone interview with John Curran (registration No. 50,445) on 05/16/2006.
6. The application has been amended as follows:

To claims

- Claim 1 line 8 after "using" insert --at least one of--
- Claim 1 line 9 after "generators to" insert --automatically--
- Claim 1 line 11 after "using said" insert --at least one--
- Claim 13 line 7 after "using" insert --at least one of--
- Claim 13 line 8 after "generators to" insert --automatically--
- Claim 13 line 10 after "using said" insert --at least one--
- Claim 17 line 2 after "programmatically" delete "the" insert --a--
- Claim 18 line 2 after "adjusting" delete "the" insert --a--

Art Unit: 2825

Claim 24 line 9 after “using” insert –at least one of--

Claim 24 line 10 after “generators to” insert –automatically--

Claim 26 line 2 after “programmatically” delete “the” insert –a--

Claim 28 line 8 after “using” insert –at least one of--

Claim 28 line 9 after “generators to” insert –automatically--

Claim 28 line 11 after “using said” insert –at least one--

Claim 33 line 2 after adjusting” delete “the” insert –a--

Claim 41 line 9 after “using” insert –at least one of--

Claim 41 line 10 after “generators to” insert –automatically--

Claim 42 line 1 after “computer-“ delete executables” insert –executable--

Claim 42 line 7 after “using” insert –at least one of--

Claim 42 line 8 after “generators to” insert –automatically--

Claim 42 line 10 after “using said” insert –at least one--

Claim 46 line 2 after “programmatically” delete “the” insert –a--

Claim 47 line 2 after adjusting” delete “the” insert –a--

Claim 53 line 9 after “using said” insert –at least one mesh automatically--

Claim 53 line 9 after “generated” delete “mesh”

Allowable Subject Matter

7. Claims 1-59 are allowed.

8. The following is an examiner’s statement of reasons for allowance: the prior art of record does not teach **PDE (partial Differential Equation) solver** verifying approximations made in the system level simulation of the **Micro Electro-Mechanical**

Systems (MEMS) design using automatically generated mesh from the **schematic MEMS design**, wherein plurality of meshes corresponding to plurality of components of the MEMS design are generated by plurality of mesh generators and wherein the MEMS device is the subject of the schematic MEMS design and a user-defined sub-assembly as claimed.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Filippi et al. (US Patent Application Publication 20050086628) discloses a method for analyzing circuit designs including representation of the design into pixel elements (individual meshes) representative of a structure in the design, but lacks **PDE (partial Differential Equation) solver** verifying approximations made in the system level simulation of the **Micro Electro-Mechanical Systems** (MEMS) design using automatically generated mesh from the **schematic MEMS design**, wherein plurality of meshes corresponding to plurality of components of the MEMS design are generated by plurality of mesh generators and wherein the MEMS device is the subject of the schematic MEMS design and a user-defined sub-assembly. Tanaka et al. ("Adaptive mesh generation in three dimensional device simulation", 5-6 June 1994, Numerical Modeling of Processes and Devices for Integrated Circuits, NUPAD V.,

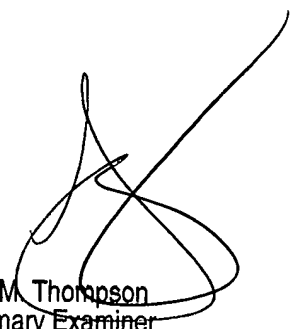
International Workshop on, Page(s): 163–166) discloses an automatic mesh optimization technique based on error evaluation using 3D device simulator HFIELDS-3D to evaluate mesh elements, but lacks **PDE (partial Differential Equation) solver** verifying approximations made in the system level simulation of the **Micro Electro-Mechanical Systems (MEMS)** design using automatically generated mesh from the **schematic MEMS design**, wherein plurality of meshes corresponding to plurality of components of the MEMS design are generated by plurality of mesh generators and wherein the MEMS device is the subject of the schematic MEMS design and a user-defined sub-assembly.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen Rossoshek whose telephone number is 571-272-1905. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Helen Rossoshek



A. M. Thompson
Primary Examiner
Technology Center 2800